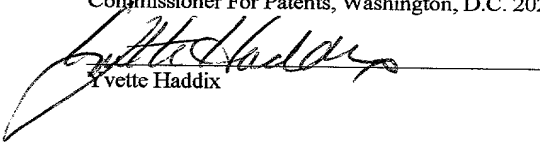


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Yvette Haddix

PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

IN RE APPLICATION OF : Zhigang Fan, et al.

FOR : **BACKGROUND-BASED
IMAGE SEGMENTATION**

SERIAL NO. : Unknown

FILED : Herewith

ATTORNEY DOCKET NO. : D/A1159
XER 2 0444
Cleveland, Ohio 44114-2518

PRELIMINARY AMENDMENT

Assistant Commissioner of Patents
Washington, D.C. 20231

Dear Assistant Commissioner:

Prior to substantive examination of the above-referenced patent application, applicant respectfully requests amendment of the application as follows:

CLEAN VERSION OF THE AMENDED SPECIFICATION AND CLAIM

October 11, 2001

IN THE SPECIFICATION:

Please replace paragraph [0035] with the following paragraph:

[0035] When the option 412 is implemented, a background uniformity test is applied to the main background and each local background 578. A first background is selected for analysis 580. The background is divided into sub-regions based on a $K \times K$ arrangement for the total bounding area 582. Experimentally, $K=4$ was used. The mean color of each sub-region is computed 584. The maximal color difference between all of the sub-regions is determined 586. If the maximal color difference is larger than a predetermined threshold, the background is reclassified as a picture object; otherwise, it remains identified as a background segment 588. Next, the process determines whether the current background is the last background 590. If the current background is the last background the refinement 106 stage is complete and the segmentation process 100 is at its end 108 (FIG. 1); otherwise, the next background is selected 592 and the uniformity test is repeated until the last background is reassessed.

IN THE CLAIMS:

Please amend claim 15, as follows:

15. (Amended) The process set forth in claim 14, step p) further comprising the following steps:
- r) dividing the local background into sub-regions, wherein the sub-regions are in a $K \times K$ arrangement;
 - s) computing the mean color of each sub-region;
 - t) determining the maximal difference between the mean colors;
 - u) comparing the maximal difference to a predetermined threshold; and
 - v) if the maximal difference is larger than the predetermined threshold, identifying the local background as a sweep.

VERSION WITH MARKINGS TO SHOW CHANGES MADE

October 12, 2001

IN THE SPECIFICATION:

Please replace paragraph [0035] with the following paragraph:

[0035] When the option 412 is implemented, a background uniformity test is applied to the main background and each local background 578. A first background is selected for analysis 580. The background is divided into [16] sub-regions based on a $K \times K$ arrangement for the total bounding area 582. Experimentally, $K=4$ was used. The mean color of each sub-region is computed 584. The maximal color difference between all of the sub-regions is determined 586. If the maximal color difference is larger than a predetermined threshold, the background is reclassified as a picture object; otherwise, it remains identified as a background segment 588. Next, the process determines whether the current background is the last background 590. If the current background is the last background the refinement 106 stage is complete and the segmentation process 100 is at its end 108 (FIG. 1); otherwise, the next background is selected 592 and the uniformity test is repeated until the last background is reassessed.

IN THE CLAIMS:

Claim 15 has been amended as follows:

15. (Amended) The process set forth in claim 14, step p) further comprising the following steps:

- r) dividing the local background into [16] sub-regions, wherein the sub-regions are in a $[4 \times 4]$ $K \times K$ arrangement;
- s) computing the mean color of each sub-region;
- t) determining the maximal difference between the mean colors;
- u) comparing the maximal difference to a predetermined threshold; and
- v) if the maximal difference is larger than the predetermined threshold, identifying the local background as a sweep.


REMARKS

This amendment is believed to place the application in better form for examination. No new matter has been entered.

Respectfully submitted,

**FAY, SHARPE, FAGAN,
MINNICH & McKEE, LLP**

Oct. 12, 2001
Date



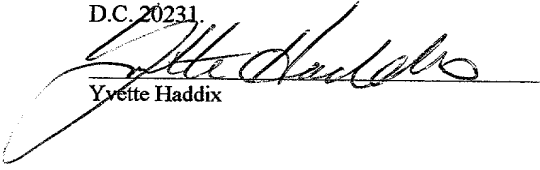
Mark S. Svat
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Yvette Haddix

PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

IN RE APPLICATION OF : Zhigang Fan, et al.
FOR : **BACKGROUND-BASED IMAGE
SEGMENTATION**
SERIAL NO. : Unknown
FILED : Herewith
ATTORNEY DOCKET NO. : D/A1159
XER 2 0444
Cleveland, Ohio 44114-2518

**REQUEST FOR AMENDMENT TO DRAWINGS
AND SUPPLEMENTAL SUBMISSION OF FORMAL DRAWINGS**

Assistant Commissioner of Patents
Washington, D.C. 20231

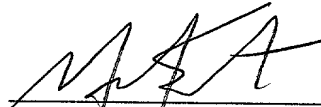
Dear Assistant Commissioner:

Prior to substantive examination of the above-referenced patent application, applicants respectfully request amendment of FIGURE 10, in accordance with the drawing changes shown in red on two (2) attached sheets. The applicants are also enclosing herewith one

(1) sheet (FIGURE 10) of Formal Drawings incorporating the requested changes and supplementing the Formal Drawings as originally filed.

Respectfully submitted,

**FAY, SHARPE, FAGAN,
MINNICH & McKEE, LLP**



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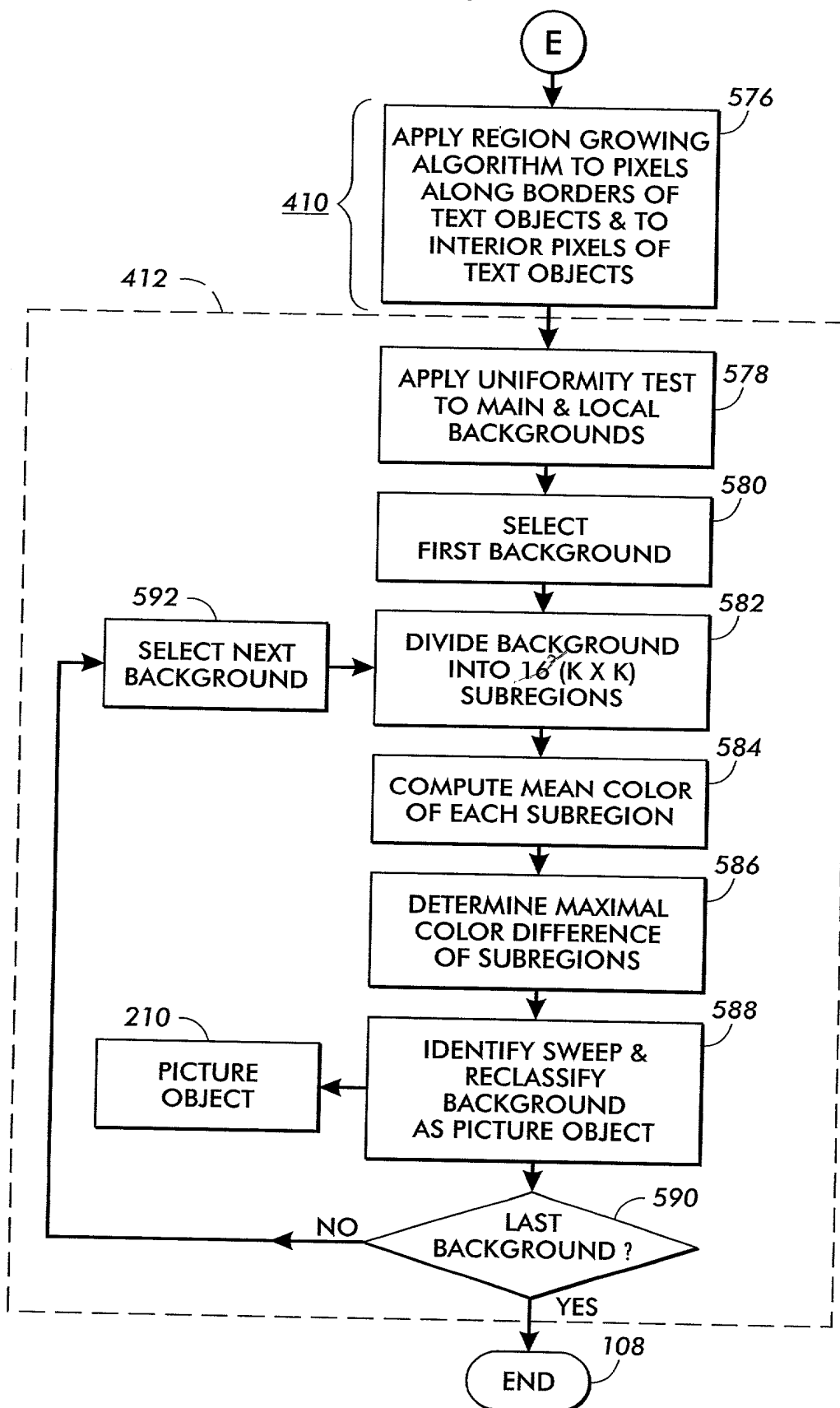


FIG. 10

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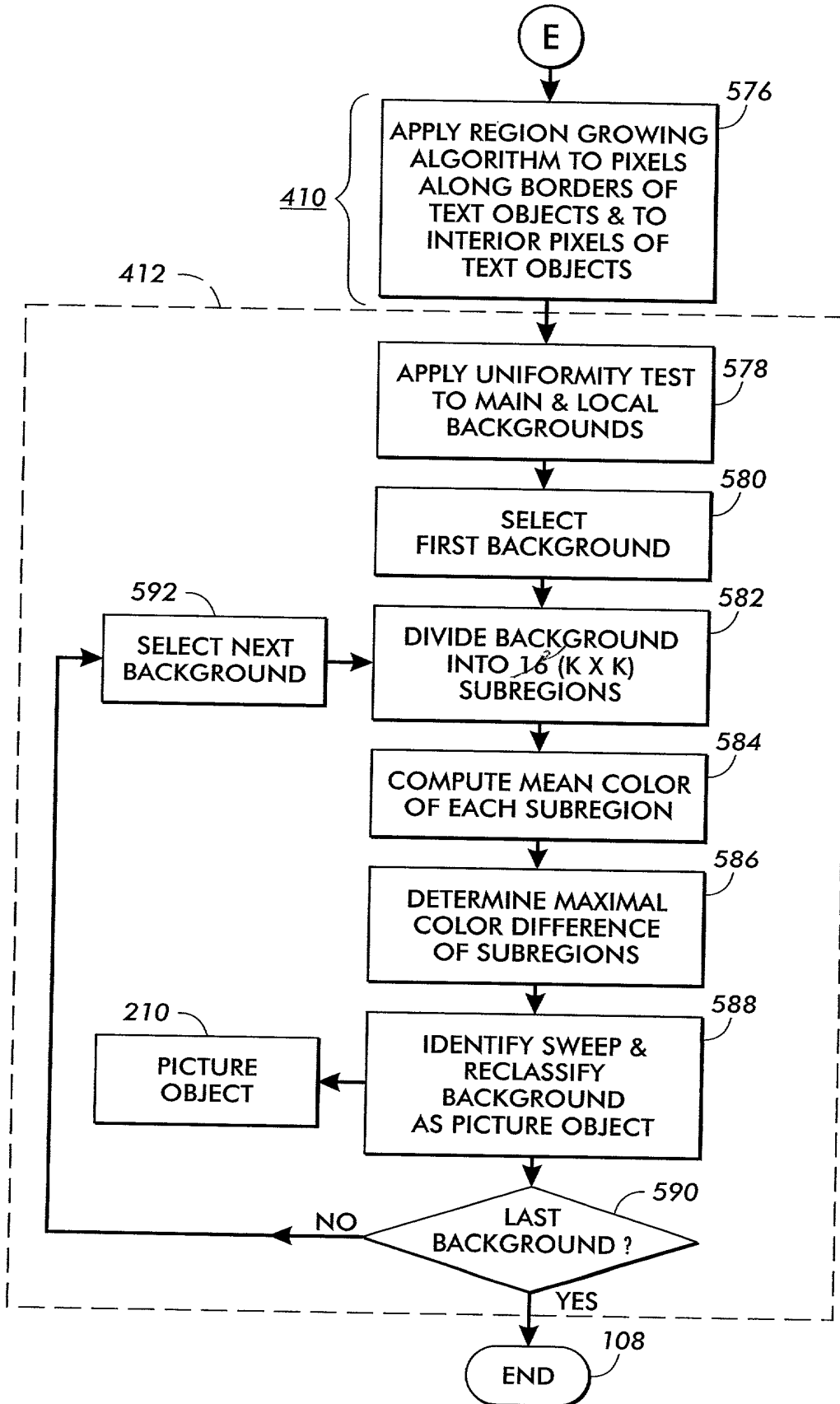


FIG. 10

10/10

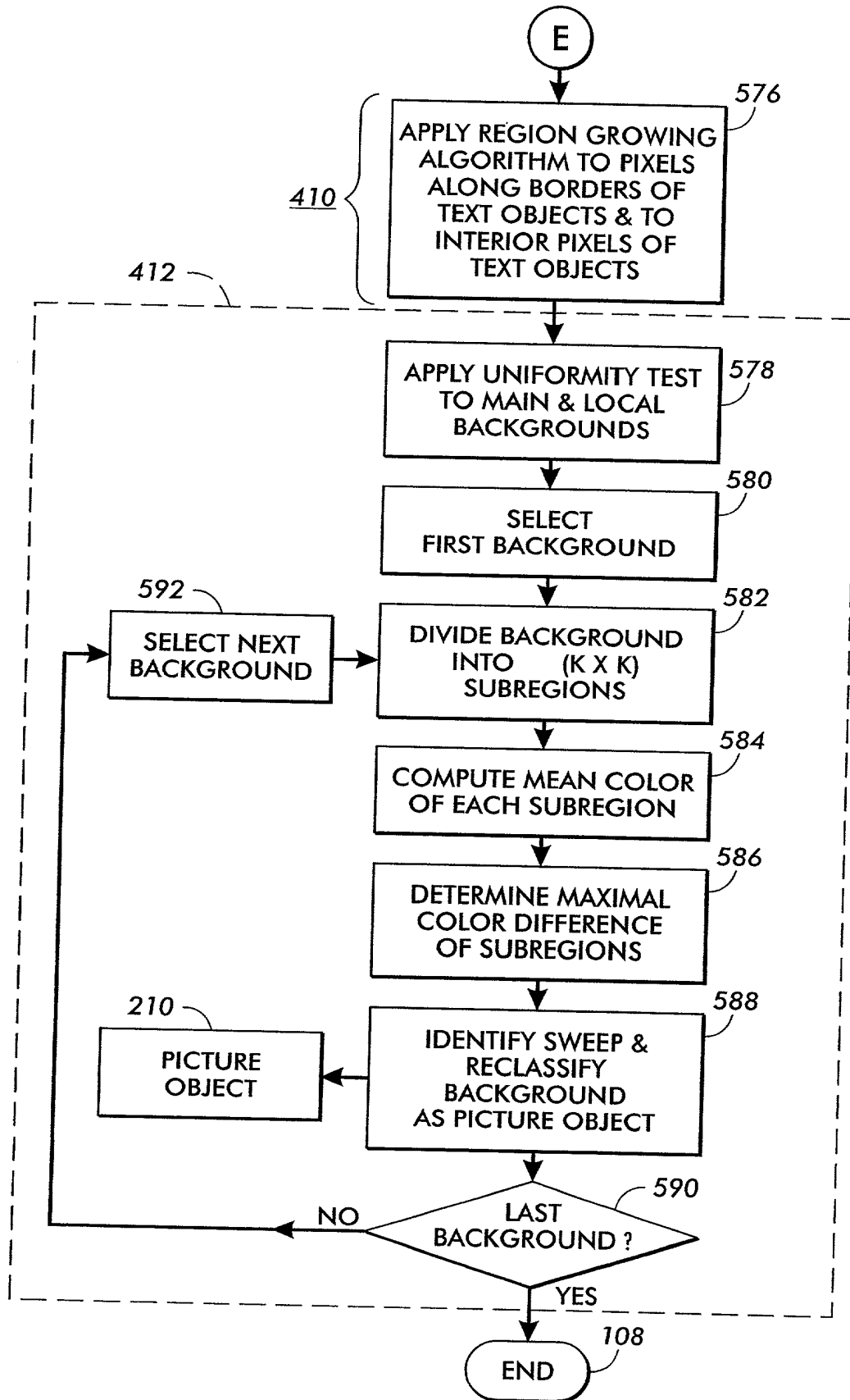


FIG. 10